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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of )  
Christopher A. Adkins, et al. ) Group: 3621  
Serial No.: 10/625,383 )  
Filed: July 23, 2003 )  
Title: METHOD FOR PROVIDING IMAGING )  
SUBSTANCE FOR USE IN AN IMAGING DEVICE )  
VIA A VIRTUAL REPLENISHMENT ) Examiner: E. Augustin

LETTER

MS APPEAL BRIEF - PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed herewith is a Replacement Brief of Appellant in the above-identified patent application, in response to the Notice of Non-Compliance mailed June 20, 2006.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition(s) therefor and authorize that any charges be made to Deposit Account No. 20-0095,  
TAYLOR & AUST, P.C.

Respectfully submitted,

  
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Examiner: E. Augustin

**REPLACEMENT BRIEF OF APPELLANT**

MS APPEAL BRIEF - PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This appeal is taken from the decision of the Examiner, dated August 16, 2005, finally rejecting claims 1-90, all of the claims that are under consideration in the above-captioned patent application. Appellants timely filed a Notice of Appeal and a Pre-Appeal Brief Request for Review in this matter on January 13, 2006. A Notice of Panel Decision indicating the continued rejection of claims 1-90 was mailed on March 2, 2006. Appellants received a Notification of Non-Compliance With 37 CFR 41.37, mailed June 20, 2006, and based on the clarification provided by the Examiner during a teleconference on June 26, 2006, revised the form of the Brief to explicitly identify by number the claims summarized in the section entitled, Summary of Claimed Subject Matter. This Replacement Brief is being filed in response to the Notification of Non-Compliance.

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## II. REAL PARTY IN INTEREST

The real party in interest in this appeal is Lexmark International, Inc., a corporation organized and existing under the laws of the State of Delaware, which owns the entire interest in this patent application as set forth in the underlying claimed invention.

**III. RELATED APPEALS AND INTERFERENCES**

No related Appeals or Interferences are known to the Appellants.

**IV. STATUS OF CLAIMS**

Pending: 1-90.

Canceled: None

Allowed: None.

Objected To: None.

Rejected: 1-90.

Withdrawn from Consideration: None.

On Appeal: 1-90.

**V. STATUS OF AMENDMENTS**

A Reply Under 37 CFR 1.116 was submitted in this case on October 17, 2005, in response to the final rejection in the Office Action mailed August 16, 2005. The Reply did not include any claim amendments. No amendments have been submitted subsequent to the Reply mailed October 17, 2005.

## **VI. SUMMARY OF CLAIMED SUBJECT MATTER**

The present Summary of Claimed Subject Matter includes background information in support of the claims, which is set forth immediately below, followed by a summary of each independent claim, including reference to Appellants' specification by page and line number, and reference to Appellants' drawings, which begins on page 9 of the present Brief.

### **A. Background Information**

The present invention generally relates to a system for facilitating imaging, and, more particularly, to a method for providing imaging substance for use in an imaging device via a virtual replenishment of a supply of imaging substance. (Spec. at page 1, lines 6-8).

Referring to Fig. 1, there is shown a diagrammatic depiction of a system 10 for implementing the method of the present invention. System 10 includes an imaging device 12, a host 14, a licensing vendor 16 and a license monitoring mechanism 18. Imaging device 12 communicates with host 14 via a communications link 20. Licensing vendor 16 communicates with host 14 via a communications link 22. (Spec. at page 5, lines 1-7).

Imaging device 12 includes a user interface 23, an image recording unit 24, an supply item 26, and a controller 28 which may be in the form of an Application Specific Integrated Circuit (ASIC). Controller 28 communicates with image recording unit 24 via a communications link 30. Controller 28 communicates with supply item 26 via a communications link 32. Imaging device 12 can be, for example, an ink jet printer and/or copier, or an electrophotographic printer and/or copier, or a multi-function device. (Spec. at page 5, lines 8-14).

In the context of the examples for imaging device 12 given above, image recording unit 24 can be, for example, an ink jet printhead unit or an electrophotographic printing unit,

and includes an imaging head 29 used for forming an image on a substrate 34, such as a sheet of print media or a photoconductive member. For convenience, each type of substrate 34 will be referred to by the element number 34, for example, print media 34. Supply item 26 can be, for example, an ink supply tank, an ink jet cartridge, a toner tank, or an electrophotographic process (EP) cartridge, each of which containing a supply of an imaging substance, such as for example ink or toner, that is consumed during an imaging process. Imaging device 12 uses the imaging substance contained in supply item 26 to form an image on print media 34. Print media 34 can be, for example, sheets of paper, fabric or transparencies. (Spec. at page 5, lines 15-26).

Licensing vendor 16 includes a database 40 for storing information relating to a plurality of supply items, such as supply item 26. For example, database 40 can store a plurality of serial numbers and a corresponding plurality of keys, wherein each serial number and its associated key may correspond to a particular one of the plurality of supply items. (Spec. at page 7, lines 18-22).

License monitoring mechanism 18 is a functional unit that may reside in either of imaging device 12 or host 14, or may reside in a combination of imaging device 12 and a host 14, these options being depicted by the dashed line representing license monitoring mechanism 18. In a preferred embodiment, license monitoring mechanism 18 is resident in the combination of controller 28 of imaging device 12 and imaging driver 38 of host 14. In general, license monitoring mechanism 18 tracks an amount of usage of supply item 26 by imaging device 12, determines whether the amount of usage of supply item 26 by imaging device 12 has reached a usage threshold, and upon reaching the usage threshold, then, for example, prompting the consumer to acquire a new license. Where a consumer desires an

on-line e-commerce acquisition of the new license, license monitoring mechanism 18 initiates and establishes communications with licensing vendor 16 for acquiring the new usage license. (Spec. at page 8, lines 10-22).

#### **B. Claims**

**Claim 1.** Referring now to Figs. 2 and 3, in one embodiment, a method for providing a virtual replenishing of a supply item 26 with an imaging substance includes providing a first supply item 26 containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance (Step S100, Spec. at page 9, lines 3-7); communicating to a database 40 a first serial number associated with first supply item 26 (Step S200, Spec. at page 10, lines 12-14); comparing the first serial number with a plurality of serial numbers stored in database 40 (Step S202, Spec. at page 10, lines 15-19); receiving from database 40 one of a first data indicating non-correspondence between the first serial number with one of the plurality of serial numbers (Spec. at page 10, lines 20-23) and a second data indicating correspondence between the first serial number with one of the plurality of serial numbers, wherein the second data includes a verification key (Step S206, Spec. at page 10 line 26 to page 11, line 4); and comparing the verification key received from database 40 with a first key stored in a memory 33b associated with first supply item 26 (Step S208, Spec. at page 11, lines 5-9), wherein if the verification key received from database 40 corresponds to first key stored in memory 33b associated with first supply item 26, then performing the step of allocating at least a portion of the surplus amount of the imaging substance contained in first supply item 26 for use (Step S210, Spec. at page 11, lines 10-18).

**Claim 13.** Referring now to Figs. 4 and 5, another embodiment of the present invention is a method for providing a virtual replenishing of a supply item 26 with an imaging substance. The method includes providing a first supply item 26 containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance (Step S300, Spec. at page 13, lines 17-21); communicating to a mechanism 18 a first serial number associated with first supply item 26 (Step S400, Spec. at page 14, lines 24-27); generating a verification key based on the first serial number (Step S402, Spec. at page 14, lines 28-33); comparing the verification key received from mechanism 18 with a first key stored in a memory 33b associated with first supply item 26 (Step S404, Spec. at page 15, lines 1-6), wherein if the verification key received from mechanism 18 corresponds to the first key stored in memory 33b associated with first supply item 26, then performing the step of allocating at least a portion of the surplus amount of the imaging substance contained in the first supply item for use (Step S406, Spec. at page 15, lines 7-15).

**Claim 29.** Referring again to Figs. 2 and 3, yet another embodiment of the present invention is a method for providing imaging substance for use in an imaging device 12. The method includes providing a first supply item 26 containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance (Step S100, Spec. at page 9, lines 3-7); associating a memory 33b with first supply item 26 (Step S102, Spec. at page 9, lines 8-12); providing a database 40 located remote from memory 33b for storing a plurality of serial numbers and a plurality of keys for a plurality of supply items 26 (Step S104, Spec. at page 9, lines 13-17); generating a first serial number for the first supply item 26 (Step S106, Spec. at page 9, line

18); generating a first key associated with the first serial number 26 (Step S108, Spec. at page 9, lines 19-21); storing at least the first key in memory 33b associated with the first supply item 26 (Step S110, Spec. at page 9, lines 22-28); storing first serial number in database 40 (Step S112, Spec. at page 9, lines 29-30); storing the first key in database 40 as a verification key (Step S114, Spec. at page 9, lines 31-33); installing the first supply item 26 in imaging device 12 for use in imaging (Step S116, Spec. at page 10, lines 1-4); and providing a virtual replenishing of supply item 26 with the imaging substance (Step S118, Spec. at page 10, lines 5-9) by the steps of: communicating to database 40 the first serial number (Step S200, Spec. at page 10, lines 12-14); comparing the first serial number with the plurality of serial numbers stored in database 40 (Step S202, Spec. at page 10, lines 15-19); receiving from database 40 one of a first data indicating non-correspondence between the first serial number with one of the plurality of serial numbers (Spec. at page 10, lines 20-23) and a second data indicating correspondence between the first serial number with one of the plurality of serial numbers, wherein the second data includes the verification key (Step S206, Spec. at page 10 line 26 to page 11, line 4); and comparing the verification key received from database 40 with the first key stored in memory 33b of first supply item 26 (Step S208, Spec. at page 11, lines 5-9), wherein if the verification key received from database 40 corresponds to the first key stored in memory 33b associated with first supply item 26, then performing the step of allocating at least a portion of the surplus amount of the imaging substance contained in first supply item 26 for use (Step S210, Spec. at page 11, lines 10-18).

**Claim 30.** Referring again to Figs. 4 and 5, still another embodiment of the present invention is a method for providing imaging substance for use in an imaging device 12. The

method includes providing a first supply item 26 containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance (Step S300, Spec. at page 13, lines 17-21); providing a memory 33b that is associated with first supply item 26 (Step S302, Spec. at page 13, lines 22-26); providing a mechanism 18 located remote from memory 33b for associating a plurality of serial numbers with a respective plurality of keys for a plurality of supply items (Step S304, Spec. at page 13, lines 27-33); generating a first serial number for the first supply item 26 (Step S306, Spec. at page 14, line 1); generating a first key based on the first serial number (Step S308, Spec. at page 14, lines 2-5); storing at least the first key in memory 33b associated with the first supply item 26 (Step S310, Spec. at page 14, lines 6-12); installing the first supply item 26 in the imaging device for use in imaging (Step S312, Spec. at page 14, lines 13-16); and providing a virtual replenishing of supply item 26 with the imaging substance (Step S314, Spec. at page 14, lines 17-21) by the steps of: communicating to mechanism 18 the first serial number (Step S400, Spec. at page 14, lines 24-27); generating a verification key based on the first serial number (Step S402, Spec. at page 14, lines 28-33); comparing the verification key received from mechanism 18 with the first key stored in memory 33b of the first supply item (Step S404, Spec. at page 15, lines 1-6), wherein if the verification key received from mechanism 18 corresponds to the first key stored in memory 33b associated with the first supply item 26, then performing the step of allocating at least a portion of the surplus amount of the imaging substance contained in the first supply item for use (Step S406, Spec. at page 15, lines 7-15).

**Claim 31.** Referring again to Figs. 2 and 3, a further embodiment of the present invention is a method for providing a virtual replenishing of a supply item 26 with an

imaging substance, the supply item 26 containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance (Spec. at page 9, lines 3-7). The method includes communicating to a database 40 a first serial number associated with supply item 26, wherein the first serial number is compared with a plurality of serial numbers stored in database 40 (Steps S200 and S202, Spec. at page 10, lines 12-19); receiving from database 40 one of a first data indicating non-correspondence between the first serial number with one of the plurality of serial numbers and a second data indicating correspondence between the first serial number with one of the plurality of serial numbers, wherein the second data includes a verification key (Step S206, Spec. at page 10 line 20 to page 11, line 4); and comparing the verification key received from database 40 with a first key stored in a memory 33b associated with supply item 26 (Step S208, Spec. at page 11, lines 5-9), wherein if the verification key received from database 40 corresponds to the first key stored in memory 33b associated with supply item 26, then allocating at least a portion of the surplus amount of the imaging substance contained in supply item 26 for use (Step S210, Spec. at page 11, lines 10-18).

**Claim 43.** Referring again to Figs. 4 and 5, a still further embodiment of the present invention is a method for providing a virtual replenishing of a supply item 26 with an imaging substance, wherein supply item 26 contains an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance (Spec. at page 13, lines 17-21). The method includes communicating to a mechanism 18 a serial number associated with supply item 26 (Step S400, Spec. at page 14, lines 24-27); receiving a verification key based on the serial number (Step S402, Spec. at page 14, lines 28-33); comparing the verification key received

from mechanism 18 with a key stored in a memory 33b associated with supply item 26 (Step S404, Spec. at page 15, lines 1-6), wherein if the verification key received from the mechanism corresponds to the key stored in memory 33b associated with supply item 26, at least a portion of the surplus amount of the imaging substance contained in the supply item is allocated for use (Step S406, Spec. at page 15, lines 7-15).

**Claim 59.** Referring again to Figs. 4 and 5, a yet further embodiment of the present invention is a method for providing a virtual replenishing of a supply item 26 with an actual supply of imaging substance, wherein supply item 26 includes a licensed amount of imaging substance and a surplus amount of imaging substance, and wherein a serial number associated with supply item 26 can be communicated to a mechanism 18 for generating a verification key based on the serial number (Spec. at page 13, lines 17-21). The method includes supplying the verification key for comparison with a key stored in a memory 33b associated with supply item 26 (Steps S400 and S402, Spec. at page 14, lines 24-33), wherein if the verification key supplied for comparison corresponds to the key, at least a portion of the surplus amount contained in supply item 26 is allocated for use (Step S406, Spec. at page 15, lines 7-15).

**Claim 75.** Referring again to Figs. 2 and 3, a yet still further embodiment of the present invention is a method for providing a virtual replenishing of a supply item 26 with an imaging substance, wherein supply item 26 contains an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance (Spec. at page 9, lines 3-7). The method includes receiving a serial number associated with supply item 26 (Step S200, Spec. at page 10, lines 12-14); and generating a verification key based on the serial number (Step S108, Spec. at

page 9, lines 19-21, and Step S308, Spec. at page 14, lines 2-5), wherein the verification key is compared with a key stored in a memory 33b associated with supply item 26, and if the verification key corresponds to the key stored in memory 33b associated with supply item 26, at least a portion of the surplus amount of the imaging substance contained in supply item 26 is allocated for use (Steps S206-S210, Spec. at page 10, line 26 to page 11, line 22).

**VII. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

A. Claims 1-24, 29-54, 59-70, and 75-86 were rejected under 35 U.S.C. §103(a) as unpatentable over Takemoto, et al., U.S. Patent Application Publication No. 2002/0012541 A1, in view of Ruder, U.S. Patent No. 4,967,207.

B. Claims 25-28, 55-58, 71-74, and 87-90 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takemoto in view of Walmsley, Simon Robert, U.S. Patent No. 6,816,968 B1.

## VIII. ARGUMENT

### **A. CLAIMS 1-24, 29-54, 59-70, AND 75-86 ARE PATENTABLE UNDER 35 U.S.C. 103(a)**

In the Final Office Action dated August 16, 2005, claims 1-24, 29-54, 59-70, and 75-86 were rejected under 35 U.S.C. §103(a) as unpatentable over Takemoto, et al., U.S. Patent Application Publication No. 2002/0012541 A1 (hereinafter, Takemoto), in view of Ruder, U.S. Patent No. 4,967,207 (hereinafter, Ruder).

However, in determining whether obviousness is established by combining the teachings of the prior art, “the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art,” and the combined teachings of the prior art references must suggest, expressly or by implication, the improvements embodied by the invention. *In re GPAC Inc.* 35 USPQ2d 1116, 1123 (Fed Cir. 1995).

However, as set forth below, Appellants submit that claims 1-24, 29-54, 59-70, and 75-86 are not disclosed, taught, or suggested by Takemoto in view of Ruder, and are therefore patentable in their present form.

#### **1. TAKEMOTO**

Takemoto is directed to an image forming apparatus (page 1, paragraph 1). Takemoto discloses an image forming apparatus having an image forming means that has a detachable process cartridge having identification information (page 7, paragraph 135). The image forming apparatus also includes an identification information reading means for reading the identification information of the process cartridge, a network connecting means for connecting to a network, and a control means that controls the image forming means based on a comparison of the identification information with license presence/absence

judgment information to judge whether the process cartridge is licensed or not (page 7, paragraph 135).

In one embodiment, the comparison may be performed in a server via a network, and in another embodiment, the comparison may be performed in the imaging apparatus (page 8, paragraph 147).

Takemoto discloses a specific embodiment as follows:

As shown in FIG. 5, in an image forming apparatus 100, a network connecting means 71 for connecting to a network, a license information receiving means 72 for receiving the license information, an electronic information memorizing means 14 for memorizing the electronic information corresponding to the license information, a comparing means 15 for comparing the electronic information with the license information, a control means 16 for controlling functions of the image forming means, a decrypting means 17 for decrypting the encrypted license information, and an image forming means 50 which forms images are provided. Further, a connecting means to electronic settlement server (a network connecting means 71) and an electronic settlement proceeding means 74 are provided in the image forming apparatus 100. (Page 14, paragraph 220).

## **2. RUDER**

Ruder is directed to a printer wherein the colorant reservoir on the printhead may be refilled during normal operation (col. 1, lines 7-9). Ruder discloses creating a partial vacuum in the interior of an ink reservoir container, and refilling the ink reservoir by drawing ink into the reservoir via a refill tube from a colorant supply at a service station (col. 3, line 37 to col. 4, line 46). For example, Ruder discloses a print assembly 10 that ejects drops of colorant via a plurality of nozzles (col. 5, lines 51-62, Fig. 4). Print assembly 10 includes a reservoir container 14 that is connected to and provides ink to an ejector 12 that ejects the colorant (col. 5, lines 63-68). A plug 22 is fitted to the body of container 14, includes a vent acting as a vacuum port 24, and has a refill needle 26 therethrough, which functions as a refill tube for refilling reservoir container 14 (col. 6, lines 21-32). A service

station 50 includes a valve 52 and a colorant supply line 54 extending from valve 52 to a colorant supply bottle 56 that contains a large volume of colorant (col. 6, lines 63-68). In order to refill reservoir container 14, a vacuum is drawn it, and then colorant supply line 54 is connected to refill needle 26, whereby colorant is drawn into container 14 from colorant supply bottle 56 by the partial vacuum previously created in container 14 (col. 8, lines 23-37).

### **3. CLAIM 1 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Appellants' claim 1 is directed to a method for providing a virtual replenishing of a supply item with an imaging substance.

Claim 1 recites, in part, providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance.

In contrast to claim 1, Takemoto discloses determining whether a license is available for the cartridge or not (page 14, paragraph 223). If not, the user is offered the opportunity to pay a fee, and if not, is offered to pay a fee two months later or otherwise asked to accept that some functions will be restricted (page 14, paragraph 224 to page 15, paragraph 234).

Functions may be restricted if the user does not pay the fee (page 15, paragraph 239), but printer operation is allowed without a license until 30% remaining toner is detected. Once 30% remaining toner is reached, operation of the printer is stopped, and the user is warned to get a license immediately or exchange the cartridge (page 16, paragraphs 240-243).

Thus, in contrast to providing a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance

and a surplus amount of the imaging substance, Takemoto discloses a supply item (the cartridge) having a portion of which may be used prior to obtaining the license, e.g., 70%. If the license is paid for, the user may use the full 100% of the toner.

Accordingly, as acknowledged by the Examiner, Takemoto does not disclose, teach, or suggest a surplus amount of imaging substance contained in the Takemoto supply item, at least of portion of which may be allocated for use if the verification key received from the database corresponds to the first key stored in the memory associated with the first supply item, as recited in claim 1, since Takemoto does not disclose, teach, or suggest a supplementary amount of toner beyond the licensed amount of 100% toner, and hence, there is no surplus amount of toner in the Takemoto cartridge that is additional to the licensed amount, e.g., an amount of toner in excess of 100%, such as might constitute wherein the supply item contains an actual supply including a licensed amount and a surplus amount, as recited in claim 1.

Accordingly Takemoto does not disclose, teach, or suggest a method for providing a virtual replenishing of a supply item with an imaging substance, including providing a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, as recited in claim 1.

Appellants respectfully submit that Ruder does not disclose, teach, or suggest a method for providing a virtual replenishing of a supply item with an imaging substance, including providing a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, as recited in claim 1.

Rather, Ruder discloses a print assembly 10 having a reservoir container 14 that provides ink to an ejector 12 (col. 5, lines 63-68). Reservoir container 14 may be refilled by drawing a vacuum in reservoir container 14, and connecting a colorant supply line 54 to refill needle 26, wherein colorant is drawn into container 14 from a colorant supply bottle 56 by the vacuum (col. 8, lines 23-37).

Thus, in contrast to a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, any corresponding Ruder surplus amount is not contained in the first supply item, but rather is contained in a another device, which is the Ruder colorant supply bottle 56.

Since the Ruder colorant supply bottle 56 is used to refill the Ruder reservoir container 14, it is clear that Ruder discloses physically refilling a reservoir container 14 (the first supply item), using a second item, colorant supply bottle 56, in contrast to a virtual replenishing of the supply item, via a surplus amount of imaging substance *contained in the supply item*, at least of portion of which may be allocated for use if the verification key received from the database corresponds to the first key stored in the memory associated with the first supply item, as recited in claim 1.

Stated differently, there is no surplus amount of imaging substance contained in the corresponding Ruder first supply item (reservoir container 14) that may be allocated for use if a verification key corresponds to a key stored in a memory associated with the supply item.

Thus Ruder does not disclose, teach, or suggest a method for providing a virtual replenishing of a supply item with an imaging substance, including providing a first supply

item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, as recited in claim 1.

MPEP 2142 provides that to establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

However, as acknowledged by the Examiner, Takemoto does not disclose, teach, or suggest the use of a surplus of toner in the Takemoto cartridge to refill the cartridge.

In addition, as set forth above, Ruder does not disclose, teach, or suggest the use of a surplus of ink in the corresponding Ruder first supply item.

Rather, Ruder employs a separate colorant supply bottle to physically replenish the corresponding first supply item (reservoir container 14), in contrast to the virtual replenishing of claim 1.

Accordingly, since all of the claim limitations are not disclosed, taught or suggested by both Takemoto and Ruder, taken alone or in combination, consequently, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 1.

Claim 1 also recites, in part, communicating to a database a first serial number associated with said first supply item; comparing said first serial number with a plurality of serial numbers stored in said database.

Takemoto does not disclose, teach, or suggest comparing the first serial number with a plurality of serial numbers stored in the database.

In rejecting Appellants claims, the Examiner asserts that Takemoto discloses “[c]omparing license information with license information stored in the ink cartridge, and

reconcile the information,” relying upon Takemoto at page 11, paragraph 181, and page 17, paragraph 268.

However, claim 1 does not recite “[c]omparing license information with license information stored in the ink cartridge, and reconcile the information.” Rather, claim 1 recites comparing the first serial number with a plurality of serial numbers stored in the database, which Takemoto does not disclose, teach, or suggest.

For example, the first relied-upon Takemoto passage at page 11, paragraph 181, discloses “comparing the identification information with the license presence/absence judgment information, which is used to determine whether the process cartridge is licensed or not.”

Although the Takemoto “identification information” is information for identifying each individual process cartridge, for example, a manufacturer’s serial number (page 8, paragraph 140), the Takemoto “license presence/absence judgment information” is usage fee settlement status information for each cartridge, correlating the identification information of the cartridge with usage fee settlement status information (page 8, paragraph 144).

Thus, rather than comparing the first serial number with a plurality of serial numbers stored in the database, as recited in claim 1, Takemoto discloses comparing the identification information with information that correlates the identification information of the cartridge with usage fee settlement status information.

Accordingly, Takemoto does not disclose, teach, or suggest all of the limitations of the claim 1 clause, comparing the first serial number with a plurality of serial numbers stored in the database.

Ruder does not disclose, teach, or suggest comparing the first serial number with a plurality of serial numbers stored in the database, nor does the Examiner assert as much.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest comparing the first serial number with a plurality of serial numbers stored in the database, as recited in claim 1, and consequently, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 1.

Claim 1 further recites, in part, receiving from said database one of a first data indicating non-correspondence between said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes a verification key.

Since, as set forth above, Takemoto does not disclose, teach, or suggest comparing the first serial number with a plurality of serial numbers stored in the database, it follows that Takemoto does not disclose, teach, or suggest receiving from the database one of a first data indicating non-correspondence between the first serial number with one of the plurality of serial numbers and a second data indicating correspondence between the first serial number with one of the plurality of serial numbers, as recited in claim 1.

In addition, Takemoto does not disclose, teach, or suggest wherein the second data includes a verification key.

For example, in contrast to claim 1, Takemoto discloses that license presence/absence judgment information existing in the server is transmitted to the image forming apparatus from the server via the network (page 10, paragraph 169). However, Takemoto does not

disclose, teach, or suggest wherein the license presence/absence judgment information includes a verification key.

The Examiner asserts that “the license information is the form of a encryption key,” relying on Takemoto at page 17, paragraph 266.

Although Takemoto discloses that license information is read by license information reading means 12 as encrypted license information, which is decrypted by decrypting means 17 prior to transmission to comparing means 15, and that the decryption is performed using a “key,” Takemoto does not disclose, teach, or suggest where the key came from, much less that the key is a verification key included second data received from the database indicating correspondence between the first serial number with one of the plurality of serial numbers, as recited in claim 1.

Ruder does not disclose, teach, or suggest receiving from the database one of a first data indicating non-correspondence between the first serial number with one of the plurality of serial numbers and a second data indicating correspondence between the first serial number with one of the plurality of serial numbers, wherein the second data includes a verification key, nor does the Examiner assert as much.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest receiving from the database one of a first data indicating non-correspondence between the first serial number with one of the plurality of serial numbers and a second data indicating correspondence between the first serial number with one of the plurality of serial numbers, wherein the second data includes a verification key, as recited in claim 1, and consequently, the combination of Takemoto and Ruder would not yield Appellants’ invention of claim 1.

Claim 1 still further recites, in part, comparing said verification key received from said database with a first key stored in a memory associated with said first supply item.

There is simply nothing in the Takemoto disclosure that discloses, teaches, or suggests comparing a verification key received from the database with a first key stored in a memory associated with the first supply item, much less wherein the verification key is included second data received from the database indicating correspondence between the first serial number with one of the plurality of serial numbers, as recited in claim 1.

Rather, Takemoto discloses comparing identification information with information that correlates the identification information of the cartridge with usage fee settlement status information (see Takemoto at page 8, paragraphs 140 and 144, and page 11, paragraph 181), without the use of a verification key, and without comparing a verification key.

In addition, the Examiner asserts that the Takemoto “key” is an encryption key; Takemoto simply does not disclose, teach, or suggest comparing any encryption keys, much less encryption keys within the context of Appellants’ claimed invention.

Although the Takemoto disclosure makes brief mention of a “key” in the relied-upon passage at paragraph 266 on page 17, Takemoto simply does not disclose, teach, or suggest comparing any of such keys, much less a verification key received from a database as set forth in claim 1.

Ruder does not disclose, teach, or suggest comparing a verification key received from the database with a first key stored in a memory associated with the first supply item, nor does the Examiner assert as much.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest comparing a verification key received from the database with a first key

stored in a memory associated with the first supply item, as recited in claim 1, and consequently, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 1.

Claim 1 yet further recites, in part, wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

As set forth above, Takemoto discloses a licensed amount of 100% toner, a portion of which may be used prior to obtaining the license, e.g., 70%, but does not disclose, teach, or suggest a supplemental amount of toner beyond the licensed amount of 100%. Thus, there is no surplus amount of toner in the Takemoto cartridge that may be allocated in the context of claim 1.

Consequently, it follows that Takemoto does not disclose, teach, or suggest allocating any surplus amount of an imaging substance contained in a first supply item if a verification key received from a database corresponds to a first key stored in a memory associated with the first supply item, as recited in claim 1.

Although Ruder discloses refilling a first supply item, e.g., reservoir container 14, from a second supply item, e.g., colorant supply bottle 56, as set forth above, such a refilling operation does not disclose, teach, or suggest allocating a surplus amount of an imaging substance contained in a first supply item within the context of claim 1, but rather discloses physically refilling a corresponding Ruder first supply item using a second noncorresponding Ruder supply item.

Regarding the Examiner's assertion that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references, Appellants submit that in order to establish a prima facie case of obviousness, the prior art references must teach or suggest all the claim limitations. However, as acknowledged by the Examiner, Takemoto does not disclose, teach, or suggest the use of a surplus of toner in the Takemoto cartridge to refill the cartridge.

In addition, Ruder does not disclose, teach, or suggest the use of a surplus of ink in the corresponding Ruder first supply item.

Rather, Ruder employs a separate colorant supply bottle to physically replenish the corresponding first supply item (reservoir container 14).

Thus, since all of the claim limitations are not disclosed, taught, or suggested by Takemoto and Ruder, taken alone or in combination, claim 1 is not obvious over Takemoto in view of Ruder.

In addition, Appellants disagree with the Examiner's characterization of Appellants' invention (see the Examiner's Response to Arguments in the Final Office Action, mailed August 16, 2005, beginning at the bottom portion of page 2 through the upper portion of page 3). The Examiner's characterization is overly broad, and clearly does not reflect the limitations recited in claim 1.

For example, the Examiner broadly asserts that a "principal enabler" of Appellants' invention is the ability to monitor the amount of toner and to "take corrective action" if the remaining amount falls below a particular threshold, which may be to replenish the toner cartridge with a "licensed surplus amount," and that the system "performs due diligence." However, claim 1 does not recite the broadly asserted "principle enabler," much less the

broad assertions being to “take corrective action,” and to perform “due diligence. ” In addition, Takemoto and Ruder, taken alone or in combination, clearly do not disclose, teach, or suggest a “licensed surplus amount.”

Rather, Appellants respectfully submit that the asserted combination is based on hindsight reconstruction, wherein the characterization was constructed in an overly broad manner in an attempt to capture Appellants’ claimed invention as being obvious, by using Appellants’ claimed invention as a template to piece together the teachings of Takemoto and Ruder.

It is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art so that the claimed invention is rendered obvious. *In re Fritch*, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

In addition, regarding the Examiner’s statement that the type of corrective action is taken is a design choice, a finding of obvious design choice is precluded where the claimed structure and the function it performs are different from the prior art. *In re Gal*, 980 F.2d 717, 25 USPQ2d 1076 (Fed. Cir. 1992); *In re Chu*, USPQ2d 1089 (Fed. Cir. 1995).

As acknowledged by the Examiner, Takemoto does not disclose, teach, or suggest using a surplus of toner to refill the cartridge.

Ruder also does not disclose use of a surplus of ink in the corresponding Ruder first supply item to refill the first supply item.

Rather than a virtual replenishment based on a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, Ruder uses a second item to physically refill the corresponding first item.

Also, as set forth above, Takemoto and Ruder, taken alone or in combination do not disclose, teach, or suggest wherein if the verification key received from the database corresponds to the first key stored in the memory associated with the first supply item, then performing the step of allocating at least a portion of the surplus amount of the imaging substance contained in the first supply item for use, as recited in claim 1.

Thus, the claim 1 structure and functions performed thereby are different from the prior art, and hence, a finding of obvious design choice is precluded, since the claimed structure and the function it performs are different from the prior art. *In re Gal*, 980 F.2d 717, 25 USPQ2d 1076 (Fed. Cir. 1992); *In re Chu*, USPQ2d 1089 (Fed. Cir. 1995).

Further, the virtual replenishing of a supply item in accordance with Appellants' invention does not require additional components, and the cost and complexity associated therewith, such as the Ruder colorant supply line 54, refill needle 26, and separate colorant supply bottle 56, because with the Appellants' invention, the supply item itself contains a licensed amount of the imaging substance *and* a surplus amount of the imaging substance for use in virtual replenishing.

As set forth above, MPEP 2142 provides that to establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Since Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest all the limitations of claim 1, a prima facie case of obviousness has not been established against claim 1, and hence, claim 1 is allowable over Takemoto in view of Ruder.

Thus, for at least the reasons set forth above, Appellants submit that claim 1 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 1 under 35 U.S.C. 103(a).

**4. CLAIM 2 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 2 is directed to the method of claim 1, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

Claim 2 is allowable due to its dependence on otherwise allowable base claim 1, and in addition, is allowable in its own right.

Accordingly, Appellants submit that claim 2 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 2 under 35 U.S.C. 103(a).

**5. CLAIM 3 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 3 is directed to the method of claim 1, wherein the step of comparing said verification key received from said database with said first key stored in said memory associated with said first supply item is performed by a module attached to said supply item.

Claim 3 is believed allowable due to its dependence on otherwise allowable base claim 1.

For example, as set forth above with respect to claim 1, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest comparing the verification key received from the database with a first key stored in a memory associated with the first supply item, as recited in claim 1, and accordingly, such step is not performed by a module attached to the printer supply item, as recited in claim 3.

In addition, Takemoto clearly discloses that the Takemoto comparisons are performed either in the image forming apparatus into which the corresponding Takemoto printer supply item is installed, or are performed in another apparatus (page 8, paragraph 147).

For example, Takemoto Figs. 1, 3, and 5 clearly depict comparing means 15 as being separate from process cartridge 51.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 3, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 3.

Accordingly, Appellants submit that claim 3 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 3 under 35 U.S.C. 103(a).

#### **6. CLAIM 4 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 4 is directed to the method of claim 1, wherein the step of comparing said verification key received from said database with said first key stored in said memory associated with said first supply item is performed by a controller of an imaging device.

Claim 4 is allowable due to its dependence on otherwise allowable base claim 1, and in addition, is allowable in its own right.

Accordingly, Appellants submit that claim 4 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 4 under 35 U.S.C. 103(a).

**7. CLAIM 5 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 5 is directed to the method of claim 1, wherein the step of comparing said verification key received from said database with said first key stored in said memory associated with said first supply item is performed by the steps of: sending from a controller of an imaging device a first portion of said verification key to a module attached to said first supply item; said module comparing said first portion of said verification key to a corresponding portion of said first key stored in said memory associated with said first supply item, and upon verification of said first portion, said module supplying to said controller a remaining portion of said first key stored in said memory for comparison by said controller to a corresponding portion of said verification key.

Claim 5 is allowable due to its dependence on otherwise allowable base claim 1.

In addition, claim 5 is allowable for substantially the same reasons as set forth above with respect to claim 3

Accordingly, Appellants submit that claim 5 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 5 under 35 U.S.C. 103(a).

**8. CLAIM 6 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 6 is directed to the method of claim 1, wherein if said verification key received from said database does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to resubmit said first serial number.

Claim 6 is allowable due to its dependence on otherwise allowable base claim 1.

In addition, in contrast to claim 6, Takemoto discloses that when the license information and the electronic information do not conform to each other in the comparison, the functions of the image forming means are simply restricted or stopped and the user is warned to get a license immediately, insert an IC card, or exchange the cartridge (page 14, paragraph 224 to page 17, paragraph 279).

Thus, rather than providing remedial measures if the comparison result is negative, Takemoto discloses that if the compared information does not conform to each other, a “signal of nonconformity” is transmitted, and the functions of the image forming means 50 are stopped or restricted (page 17 paragraph 270), without taking any action to rectify the lack of correspondence between the compared information as might constitute prompting at least one of a user and a monitoring mechanism to resubmit the first serial number, as recited in claim 6.

In addition, Ruder does not disclose, teach, or suggest wherein if the verification key received from the database does not correspond to the first key stored in the memory associated with the first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to resubmit the first serial number, and nor does the Examiner assert as much.

Thus, for at least the reasons set forth above, Appellants submit that claim 6 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 6 under 35 U.S.C. 103(a).

**9. CLAIM 7 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 7 is directed to the method of claim 6, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

Claim 7 is allowable due to its dependence on otherwise allowable base claim 1 and/or intervening claim 6.

In addition, in contrast to claim 7, Takemoto discloses that when the license information and the electronic information do not conform to each other in the comparison, the functions of the image forming means are simply restricted or stopped and the user is warned to get a license immediately, insert an IC card, or exchange the cartridge (page 14, paragraph 224 to page 17, paragraph 279).

Thus, rather than providing remedial measures if the comparison result is negative, Takemoto discloses that if the compared information does not conform to each other, a “signal of nonconformity” is transmitted, and the functions of the image forming means 50 are stopped or restricted (page 17 paragraph 270), without taking any action to rectify the lack of correspondence between the compared information as might constitute displaying a message indicating that the virtual replenishing of the supply item with the imaging substance cannot be performed.

In addition, Ruder does not disclose, teach, or suggest wherein if there is no correspondence between the verification key and the first key in a predetermined number of attempts, then performing the step of displaying a message indicating that the virtual

replenishing of the supply item with the imaging substance cannot be performed, and nor does the Examiner assert as much.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 7, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 7.

Thus, for at least the reasons set forth above, Appellants submit that claim 7 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 7 under 35 U.S.C. 103(a).

**10. CLAIM 8 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 8 is directed to the method of claim 1, wherein if said verification key received from said database does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to enter a corrected key.

Claim 8 is allowable due to its dependence on otherwise allowable base claim 1.

In addition, in contrast to claim 8, Takemoto discloses that when the license information and the electronic information do not conform to each other in the comparison, the functions of the image forming means are simply restricted or stopped and the user is warned to get a license immediately, insert an IC card, or exchange the cartridge (page 14, paragraph 224 to page 17, paragraph 279).

Thus, rather than providing remedial measures if the comparison result is negative, Takemoto discloses that if the compared information does not conform to each other, a "signal of nonconformity" is transmitted, and the functions of the image forming means 50 are

stopped or restricted (page 17 paragraph 270), without taking any action to rectify the lack of correspondence between the compared information as might constitute prompting at least one of a user and a monitoring mechanism to enter a corrected key.

In addition, Ruder does not disclose, teach, or suggest wherein if the verification key received from the database does not correspond to the first key stored in the memory associated with the first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to enter a corrected key, and nor does the Examiner assert as much.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 8, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 8.

Thus, for at least the reasons set forth above, Appellants submit that claim 8 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 8 under 35 U.S.C. 103(a).

#### **11. CLAIM 9 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 9 is directed to the method of claim 8, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

Claim 9 is allowable due to its dependence on otherwise allowable base claim 1 and/or intervening claim 8.

In addition, in contrast to claim 9, Takemoto discloses that when the license information and the electronic information do not conform to each other in the comparison, the functions of the image forming means are simply restricted or stopped and the user is warned to get a license immediately, insert an IC card, or exchange the cartridge (page 14, paragraph 224 to page 17, paragraph 279).

Thus, rather than providing remedial measures if the comparison result is negative, Takemoto discloses that if the compared information does not conform to each other, a “signal of nonconformity” is transmitted, and the functions of the image forming means 50 are stopped or restricted (page 17 paragraph 270), without taking any action to rectify the lack of correspondence between the compared information as might constitute displaying a message indicating that the virtual replenishing of said supply item with the imaging substance cannot be performed.

In addition, Ruder does not disclose, teach, or suggest wherein if there is no correspondence between the verification key and the first key in a predetermined number of attempts, then performing the step of displaying a message indicating that the virtual replenishing of the supply item with the imaging substance cannot be performed, and nor does the Examiner assert as much.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 9, and hence, the combination of Takemoto and Ruder would not yield Appellants’ invention of claim 9.

Thus, for at least the reasons set forth above, Appellants submit that claim 9 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 9 under 35 U.S.C. 103(a).

**12. CLAIM 10 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 10 is directed to the method of claim 1, wherein the step of comparing said verification key is repeated a predetermined number of times.

Claim 10 is allowable due to its dependence on otherwise allowable base claim 1.

In addition, claim 10 further and patentably defines the invention over Takemoto in view of Ruder.

For example, neither Takemoto nor Ruder, taken alone or in combination, disclose, teach, or suggest that comparing the verification key is repeated a predetermined number of times.

Accordingly, Appellants submit that claim 10 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 10 under 35 U.S.C. 103(a).

**13. CLAIM 11 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 11 is directed to the method of claim 10, wherein if there is no correspondence between said verification key and said first key in said predetermined number of times, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

Claim 11 is allowable due to its dependence on otherwise allowable base claim 1 and/or intervening claim 10.

In contrast to claim 11, Takemoto discloses that when the license information and the electronic information do not conform to each other in the comparison, the functions of the

image forming means are simply restricted or stopped and the user is warned to get a license immediately, insert an IC card, or exchange the cartridge (page 14, paragraph 224 to page 17, paragraph 279).

Thus, rather than providing remedial measures if the comparison result is negative, Takemoto discloses that if the compared information does not conform to each other, a “signal of inconformity” is transmitted, and the functions of the image forming means 50 are stopped or restricted (page 17 paragraph 270), without taking any action to rectify the lack of correspondence between the compared information as might constitute displaying a message indicating that the virtual replenishing of the supply item with the imaging substance cannot be performed.

In addition, Ruder does not disclose, teach, or suggest wherein if there is no correspondence between the verification key and the first key in the predetermined number of times, then performing the step of displaying a message indicating that the virtual replenishing of the supply item with the imaging substance cannot be performed, and nor does the Examiner assert as much.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 11, and hence, the combination of Takemoto and Ruder would not yield Appellants’ invention of claim 11.

Thus, for at least the reasons set forth above, Appellants submit that claim 11 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 11 under 35 U.S.C. 103(a).

**14. CLAIM 12 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 12 is directed to the method of claim 1, wherein said memory is attached to said supply item.

Claim 12 is allowable due to its dependence on otherwise allowable base claim 1, and in addition, is allowable in its own right.

Thus, for at least the reasons set forth above, Appellants submit that claim 12 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 12 under 35 U.S.C. 103(a).

**15. CLAIM 13 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 13 is directed to a method for providing a virtual replenishing of a supply item with an imaging substance.

Claim 13 recites, in part, providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest providing a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, for substantially the same reasons as set forth above with respect to claim 1.

Claim 13 also recites, in part, comparing said verification key received from said mechanism with a first key stored in a memory associated with said first supply item.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest comparing the verification key received from the mechanism with a first key stored in a memory associated with the first supply item for substantially the same reasons as set forth above with respect to claim 1.

Claim 13 further recites, in part, wherein if said verification key received from said mechanism corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest wherein if the verification key received from the mechanism corresponds to the first key stored in the memory associated with the first supply item, then performing the step of allocating at least a portion of the surplus amount of the imaging substance contained in the first supply item for use, for substantially the same reasons as set forth above with respect to claim 1.

Since Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest all the limitations of claim 13, a *prima facie* case of obviousness has not been established against claim 13, and hence, claim 13 is allowable over Takemoto in view of Ruder.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 13, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 13.

Thus, for at least the reasons set forth above, Appellants submit that claim 13 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 13 under 35 U.S.C. 103(a).

**16. CLAIM 14 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 14 is directed to the method of claim 13, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

Claim 14 is allowable due to its dependence on otherwise allowable base claim 13, and in addition, is allowable in its own right.

Accordingly, Appellants submit that claim 14 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 14 under 35 U.S.C. 103(a).

**17. CLAIM 15 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 15 is directed to the method of claim 13, wherein the step of comparing said verification key received from said mechanism with said first key stored in said memory associated with said first supply item is performed by a module attached to said supply item.

Claim 15 is believed allowable due to its dependence on otherwise allowable base claim 13.

In addition, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest wherein the step of comparing the verification key received from the mechanism with the first key stored in the memory associated with the first supply item is performed by a module attached to the supply item, for substantially the same reasons as set forth above with respect to claim 3.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 15, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 15.

Accordingly, Appellants submit that claim 15 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 15 under 35 U.S.C. 103(a).

**18. CLAIM 16 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 16 is directed to the method of claim 13, wherein the step of comparing said verification key received from said mechanism with said first key stored in said memory associated with said first supply item is performed by a controller of an imaging device.

Claim 16 is allowable due to its dependence on otherwise allowable base claim 13, and in addition, is allowable in its own right.

Accordingly, Appellants submit that claim 16 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 16 under 35 U.S.C. 103(a).

**19. CLAIM 17 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 17 is directed to the method of claim 13, wherein the step of comparing said verification key received from said mechanism with said first key stored in said memory associated with said first supply item is performed by the steps of: sending from a controller of an imaging device a first portion of said verification key to a module attached to said first supply item; said module comparing said first portion of said verification key to a corresponding portion of said first key stored in said memory associated with said first supply item, and upon verification of said first portion, said module supplying to said

controller a remaining portion of said first key stored in said memory for comparison by said controller to a corresponding portion of said verification key.

Claim 17 is allowable due to its dependence on otherwise allowable base claim 13.

In addition, claim 17 is allowable for substantially the same reasons as set forth above with respect to claims 3 and 15.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 17, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 17.

Accordingly, Appellants submit that claim 17 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 17 under 35 U.S.C. 103(a).

#### **20. CLAIM 18 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 18 is directed to the method of claim 13, wherein if said verification key received from said mechanism does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to resubmit said first serial number.

Claim 18 is allowable due to its dependence on otherwise allowable base claim 13.

In addition, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest wherein if the verification key received from the mechanism does not correspond to the first key stored in the memory associated with the first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to resubmit the first serial number, for substantially the same reasons as set forth above with respect to claim 6.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 18, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 18.

Thus, for at least the reasons set forth above, Appellants submit that claim 18 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 18 under 35 U.S.C. 103(a).

**21. CLAIM 19 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 19 is directed to the method of claim 18, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

Claim 19 is allowable due to its dependence on otherwise allowable base claim 13 and/or intervening claim 18, and in addition, is allowable in its own right.

For example, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed, for substantially the same reasons as set forth above with respect to claim 7.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 19, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 19.

Thus, for at least the reasons set forth above, Appellants submit that claim 19 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 19 under 35 U.S.C. 103(a).

**22. CLAIM 20 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 20 is directed to the method of claim 13, wherein if said verification key received from said mechanism does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to enter a corrected key.

Claim 20 is allowable due to its dependence on otherwise allowable base claim 13, is allowable in its own right.

For example, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest wherein if said verification key received from said mechanism does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to enter a corrected key, for substantially the same reasons as set forth above with respect to claim 8.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 20, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 20.

Thus, for at least the reasons set forth above, Appellants submit that claim 20 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 20 under 35 U.S.C. 103(a).

**23. CLAIM 21 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 21 is directed to the method of claim 20, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

Claim 21 is allowable due to its dependence on otherwise allowable base claim 13 and/or intervening claim 20, and in addition, is allowable in its own right.

For example, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed, for substantially the same reasons as set forth above with respect to claim 9.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 21, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 21.

Thus, for at least the reasons set forth above, Appellants submit that claim 21 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 21 under 35 U.S.C. 103(a).

**24. CLAIM 22 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 22 is directed to the method of claim 13, wherein the step of comparing said verification key is repeated a predetermined number of times.

Claim 22 is allowable due to its dependence on otherwise allowable base claim 13.

In addition, claim 22 further and patentably defines the invention over Takemoto in view of Ruder.

For example, neither Takemoto nor Ruder, taken alone or in combination, disclose, teach, or suggest that comparing the verification key is repeated a predetermined number of times.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 22, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 22.

Accordingly, Appellants submit that claim 22 is patentable in its present form, and thus respectfully request that the Board reverse the rejection of claim 22 under 35 U.S.C. 103(a).

#### **25. CLAIM 23 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 23 is directed to the method of claim 22, wherein if there is no correspondence between said verification key and said first key in said predetermined number of times, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

Claim 23 is allowable due to its dependence on otherwise allowable base claim 13 and/or intervening claim 22.

In addition, claim 23 further and patentably defines the invention over Takemoto in view of Ruder.

For example, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest wherein if there is no correspondence between said verification key and

said first key in said predetermined number of times, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed, for substantially the same reasons as set forth above with respect to claim 11.

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 23, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 23.

Thus, for at least the reasons set forth above, Appellants submit that claim 23 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 23 under 35 U.S.C. 103(a).

#### **26. CLAIM 24 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 24 is directed to the method of claim 13, wherein said memory is attached to said supply item.

Claim 24 is allowable due to its dependence on otherwise allowable base claim 13, and in addition, is allowable in its own right.

Thus, for at least the reasons set forth above, Appellants submit that claim 24 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 24 under 35 U.S.C. 103(a).

#### **27. CLAIM 29 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 29 is directed to a method for providing imaging substance for use in an imaging device.

Claim 29 recites, in part, providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest providing a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, for substantially the same reasons as set forth above with respect to claim 1

Claim 29 also recites, in part, providing a virtual replenishing of the supply item with the imaging substance. Takemoto does not disclose, teach, or suggest providing a virtual replenishing of said supply item with said imaging substance, and nor does the Examiner assert as much.

Although Ruder discloses refilling reservoir container 14 with colorant from colorant supply bottle 56, the Ruder refilling operation is a physical replenishment, in contrast to the virtual replenishment of claim 29, for substantially the same reasons as set forth above with respect to claim 1.

Claim 29 further recites, in part, wherein if the verification key received from the database corresponds to the first key stored in the memory associated with the first supply item, then performing the step of allocating at least a portion of the surplus amount of the imaging substance contained in the first supply item for use.

Takemoto and Ruder simply do not disclose, teach, or suggest wherein if the verification key received from the database corresponds to the first key stored in the memory associated with the first supply item, then performing the step of allocating at least a portion

of the surplus amount of the imaging substance contained in the first supply item for use for substantially the same reasons as set forth above with respect to claim 1.

In addition, claim 29 recites, in part, receiving from said database one of a first data indicating non-correspondence between said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes said verification key; and comparing said verification key received from said database with said first key stored in said memory of said first supply item, wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use, which is not disclosed, taught or suggested by Takemoto and Ruder, taken alone or in combination, for substantially the same reasons as set forth above with respect to claim 1, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 29.

Thus, for at least the reasons set forth above, Appellants submit that claim 29 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 29 under 35 U.S.C. 103(a).

**28. CLAIM 30 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 30 is directed to a method for providing imaging substance for use in an imaging device.

Claim 30 recites, in part, providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging

substance and a surplus amount of said imaging substance, providing a virtual replenishing of said supply item with said imaging substance, comparing said first serial number with said plurality of serial numbers stored in said database; receiving from said database one of a first data indicating non-correspondence between said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes said verification key; and comparing said verification key received from said database with said first key stored in said memory of said first supply item, wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the above recited subject matter of claim 30 for substantially the same reasons as set forth above with respect to claims 1 and 29, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 30.

Thus, for at least the reasons set forth above, Appellants submit that claim 30 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 30 under 35 U.S.C. 103(a).

**29. CLAIM 31 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 31 is directed to a method for providing a virtual replenishing of a supply item with an imaging substance, said supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a

surplus amount of said imaging substance, comprising: communicating to a database a first serial number associated with said supply item, wherein said first serial number is compared with a plurality of serial numbers stored in said database; receiving from said database one of a first data indicating non-correspondence between said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes a verification key; and comparing said verification key received from said database with a first key stored in a memory associated with said supply item, wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said supply item, then allocating at least a portion of said surplus amount of said imaging substance contained in said supply item for use.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the above recited subject matter of claim 31 for substantially the same reasons as set forth above with respect to claims 1 and 29, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 31.

Thus, for at least the reasons set forth above, Appellants submit that claim 31 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 31 under 35 U.S.C. 103(a).

**30. CLAIM2 32-42 ARE PATENTABLE OVER TAKEMOTO IN VIEW OF  
RUDER**

Claims 32-42 are allowable for substantially the same reasons as set forth above with respect to claims 2-12.

Thus, for at least the reasons set forth above, Appellants submit that claims 32-42 are patentable in their present respective forms.

Accordingly, Appellants thus respectfully request that the Board reverse the rejection of claims 32-42 under 35 U.S.C. 103(a).

**31. CLAIM 43 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 43 is directed to a method for providing a virtual replenishing of a supply item with an imaging substance, wherein said supply item contains an actual supply of the imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance, comprising: communicating to a mechanism a serial number associated with said supply item; receiving a verification key based on said serial number; comparing said verification key received from said mechanism with a key stored in a memory associated with said supply item, wherein if said verification key received from said mechanism corresponds to said key stored in said memory associated with said supply item, at least a portion of said surplus amount of said imaging substance contained in said supply item is allocated for use.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the above recited subject matter of claim 43 for substantially the same reasons as set forth above with respect to claim 1, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 43.

Thus, for at least the reasons set forth above, Appellants submit that claim 43 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 43 under 35 U.S.C. 103(a).

**32. CLAIM2 44-54 ARE PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claims 44-54 are allowable for substantially the same reasons as set forth above with respect to claims 2-12.

Thus, for at least the reasons set forth above, Appellants submit that claims 44-54 are patentable in their present respective forms.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 44-54 under 35 U.S.C. 103(a).

**33. CLAIM 59 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 59 is directed to a method for providing a virtual replenishing of a supply item with an actual supply of imaging substance, wherein said supply item includes a licensed amount of said imaging substance and a surplus amount of said imaging substance, and wherein a serial number associated with said supply item can be communicated to a mechanism for generating a verification key based on the serial number, comprising: supplying said verification key for comparison with a key stored in a memory associated with said supply item, wherein if said verification key supplied for comparison corresponds to said key, at least a portion of the surplus amount contained in said supply item is allocated for use.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the above recited subject matter of claim 59 for substantially the same reasons as set forth above with respect to claim 1, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 59.

Thus, for at least the reasons set forth above, Appellants submit that claim 59 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 59 under 35 U.S.C. 103(a).

**34. CLAIM2 60-70 ARE PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claims 60-70 are allowable for substantially the same reasons as set forth above with respect to claims 2-12.

Thus, for at least the reasons set forth above, Appellants submit that claims 60-70 are patentable in their present respective forms.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 60-70 under 35 U.S.C. 103(a).

**35. CLAIM 75 IS PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claim 75 is directed to a method for providing a virtual replenishing of a supply item with an imaging substance, wherein said supply item contains an actual supply of the imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance, comprising: receiving a serial number associated with said supply item; and generating a verification key based on said serial number, wherein said verification key is compared with a key stored in a memory associated with said supply item, and if said verification key corresponds to said key stored in said memory associated with said supply item, at least a portion of said surplus amount of said imaging substance contained in said supply item is allocated for use.

Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the above recited subject matter of claim 75 for substantially the same reasons as set forth above with respect to claim 1, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 75.

Thus, for at least the reasons set forth above, Appellants submit that claim 75 is patentable in its present form.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 75 under 35 U.S.C. 103(a).

**36. CLAIMS 76-86 ARE PATENTABLE OVER TAKEMOTO IN VIEW OF RUDER**

Claims 76-86 are allowable for substantially the same reasons as set forth above with respect to claims 2-12.

Thus, for at least the reasons set forth above, Appellants submit that claims 76-86 are patentable in their present respective forms.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 76-86 under 35 U.S.C. 103(a).

**B. CLAIMS 25-28, 55-58, 71-74, AND 87-90 ARE PATENTABLE UNDER 35 U.S.C. 103(a)**

In the Final Office Action dated August 16, 2005, claims 25-28, 55-58, 71-74, and 87-90 were rejected under 35 U.S.C. §103(a) as unpatentable over Takemoto, et al., U.S. Patent Application Publication No. 2002/0012541 A1 (hereinafter, Takemoto), in view of Walmsley, Simon Robert, U.S. Patent No. 6,816,968 B1 (hereinafter, Walmsley).

However, in determining whether obviousness is established by combining the teachings of the prior art, “the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art,” and the combined teachings of the prior art references must suggest, expressly or by implication, the improvements embodied by the invention. *In re GPAC Inc.* 35 USPQ2d 1116, 1123 (Fed Cir. 1995).

However, as set forth below, Appellants submit that claims 25-28, 55-58, 71-74, and 87-90 are not disclosed, taught, or suggested by Takemoto in view of Ruder, and are therefore patentable in their present form.

### **1. TAKEMOTO**

Takemoto is summarized at section VIII A1 of this Brief, which for the sake of brevity will not be repeated here.

### **2. WALMSLEY**

Walmsley is directed to a consumable authentication protocol for validating the existence of an untrusted authentication chip (col. 1, lines 16-19). Walmsley discloses using an HMAC construction in which any iterative hash function can be used (col. 13, lines 29-42).

### **3. CLAIMS 25, 55, 71, AND 87 ARE PATENTABLE OVER TAKEMOTO IN VIEW OF WALMSLEY**

Appellants’ claim 25 is directed to the method of claim 13, wherein said first key is generated based on said first serial number by said mechanism executing an algorithm.

As set forth above, Takemoto does not disclose, teach, or suggest the subject matter of claim 13, from which claim 25 depends.

Walmsley does not make up for the deficiency of Takemoto as applied to claim 13, nor does the Examiner assert as much.

In contrast to claims 13 and 25, Walmsley is directed to a consumable authentication protocol for validating the existence of an untrusted authentication chip (col. 1, lines -18).

However, Walmsley does not disclose, teach, or suggest a method for providing a virtual replenishing of a supply item with an imaging substance that includes providing a first supply item containing an actual supply of the imaging substance, the actual supply including a licensed amount of the imaging substance and a surplus amount of the imaging substance, as recited in claim 13.

Accordingly, claim 25 is allowable due to its dependence on otherwise allowable base claim 13.

In addition, although Walmsley discloses the use of a hashing algorithm, Walmsley simply does not disclose, teach, or suggest wherein the first key is generated based on the first serial number by the mechanism executing an algorithm. Rather, Walmsley discloses the use of a hashing algorithm that requires fewer memory resources (col. 57, lines 57-60).

Accordingly, Takemoto and Ruder, taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 25, and hence, the combination of Takemoto and Ruder would not yield Appellants' invention of claim 25.

Claims 55, 71, and 87 variously recite wherein the wherein the first key is generated based on the first serial number by the mechanism executing an algorithm, and accordingly, are believed allowable for substantially the same reasons as set forth above with respect to claim 25.

Thus, for at least the reasons set forth above, Appellants submit that claims 25, 55, 71, and 87 are patentable in their present respective forms.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 25, 55, 71, and 87 under 35 U.S.C. 103(a).

**4. CLAIMS 26-28, 56-58, 72-74, AND 88-90 ARE PATENTABLE OVER TAKEMOTO IN VIEW OF WALMSLEY**

Claims 26-28, 56-58, 72-74, and 88-90 are allowable for due to their dependence on their otherwise allowable base claims and/or intervening claims 25, 55, 71 and 87.

Thus, for at least the reasons set forth above, Appellants submit that claims 26-28, 56-58, 72-74, and 88-90 are patentable in their present respective forms.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 26-28, 56-58, 72-74, and 88-90 under 35 U.S.C. 103(a).

**C. CONCLUSION**

For the foregoing reasons, Appellants submit that claims 1-90 are patentable in their present respective forms. Accordingly, Appellants respectfully requests that the Board reverse the final rejections of the appealed claims.

Respectfully submitted,



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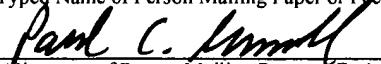
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(Signature of Person Mailing Paper or Fee)

## IX. CLAIMS APPENDIX

1. A method for providing a virtual replenishing of a supply item with an imaging substance, comprising the steps of:

providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said  
5 imaging substance;

communicating to a database a first serial number associated with said first supply item;  
comparing said first serial number with a plurality of serial numbers stored in said database;

receiving from said database one of a first data indicating non-correspondence between  
10 said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes a verification key; and

comparing said verification key received from said database with a first key stored in a memory associated with said first supply item,

15 wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

2. The method of claim 1, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

3. The method of claim 1, wherein the step of comparing said verification key received from said database with said first key stored in said memory associated with said first supply item is performed by a module attached to said supply item.

4. The method of claim 1, wherein the step of comparing said verification key received from said database with said first key stored in said memory associated with said first supply item is performed by a controller of an imaging device.

5. The method of claim 1, wherein the step of comparing said verification key received from said database with said first key stored in said memory associated with said first supply item is performed by the steps of:

sending from a controller of an imaging device a first portion of said verification key to a module attached to said first supply item;

said module comparing said first portion of said verification key to a corresponding portion of said first key stored in said memory associated with said first supply item, and upon verification of said first portion,

10 said module supplying to said controller a remaining portion of said first key stored in said memory for comparison by said controller to a corresponding portion of said verification key.

6. The method of claim 1, wherein if said verification key received from said database does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to resubmit said first serial number.

7. The method of claim 6, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

8. The method of claim 1, wherein if said verification key received from said database does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to enter a corrected key.

9. The method of claim 8, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

10. The method of claim 1, wherein the step of comparing said verification key is repeated a predetermined number of times.

11. The method of claim 10, wherein if there is no correspondence between said verification key and said first key in said predetermined number of times, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

12. The method of claim 1, wherein said memory is attached to said supply item.

13. A method for providing a virtual replenishing of a supply item with an imaging substance, comprising the steps of:

providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said 5 imaging substance;

communicating to a mechanism a first serial number associated with said first supply item;

generating a verification key based on said first serial number;

comparing said verification key received from said mechanism with a first key stored in a 10 memory associated with said first supply item,

wherein if said verification key received from said mechanism corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

14. The method of claim 13, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

15. The method of claim 13, wherein the step of comparing said verification key received from said mechanism with said first key stored in said memory associated with said first supply item is performed by a module attached to said supply item.

16. The method of claim 13, wherein the step of comparing said verification key received from said mechanism with said first key stored in said memory associated with said first supply item is performed by a controller of an imaging device.

17. The method of claim 13, wherein the step of comparing said verification key received from said mechanism with said first key stored in said memory associated with said first supply item is performed by the steps of:

5 sending from a controller of an imaging device a first portion of said verification key to a module attached to said first supply item;

said module comparing said first portion of said verification key to a corresponding portion of said first key stored in said memory associated with said first supply item, and upon verification of said first portion,

10 said module supplying to said controller a remaining portion of said first key stored in said memory for comparison by said controller to a corresponding portion of said verification key.

18. The method of claim 13, wherein if said verification key received from said mechanism does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to resubmit said first serial number.

19. The method of claim 18, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

20. The method of claim 13, wherein if said verification key received from said mechanism does not correspond to said first key stored in said memory associated with said first supply item, then performing the step of prompting at least one of a user and a monitoring mechanism to enter a corrected key.

21. The method of claim 20, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

22. The method of claim 13, wherein the step of comparing said verification key is repeated a predetermined number of times.

23. The method of claim 22, wherein if there is no correspondence between said verification key and said first key in said predetermined number of times, then performing the step of displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

24. The method of claim 13, wherein said memory is attached to said supply item.

25. The method of claim 13, wherein said first key is generated based on said first serial number by said mechanism executing an algorithm.

26. The method of claim 25, wherein said algorithm is an HMAC algorithm.

27. The method of claim 13, wherein the step of generating said verification key based on said first serial number is performed by said mechanism executing an algorithm.

28. The method of claim 27, wherein said algorithm is an HMAC algorithm.

29. A method for providing imaging substance for use in an imaging device, comprising the steps:

providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said 5 imaging substance;

associating a memory with said first supply item;

providing a database located remote from said memory for storing a plurality of serial numbers and a plurality of keys for a plurality of supply items;

generating a first serial number for said first supply item;

10 generating a first key associated with said first serial number;

storing at least said first key in said memory associated with said first supply item;

storing said first serial number in said database;

storing said first key in said database as a verification key;

installing said first supply item in said imaging device for use in imaging; and

15 providing a virtual replenishing of said supply item with said imaging substance by the steps of:

communicating to said database said first serial number;

comparing said first serial number with said plurality of serial numbers stored in said database;

20 receiving from said database one of a first data indicating non-correspondence between said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes said verification key; and

25 comparing said verification key received from said database with said first key stored in said memory of said first supply item,

wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

30. A method for providing imaging substance for use in an imaging device, comprising the steps:

providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said

5 imaging substance;

providing a memory that is associated with said first supply item;

providing a mechanism located remote from said memory for associating a plurality of serial numbers with a respective plurality of keys for a plurality of supply items;

generating a first serial number for said first supply item;

10 generating a first key based on said first serial number;

storing at least said first key in said memory associated with said first supply item;

installing said first supply item in said imaging device for use in imaging; and

providing a virtual replenishing of said supply item with said imaging substance by the steps of:

15 communicating to said mechanism said first serial number;

generating a verification key based on said first serial number;

comparing said verification key received from said mechanism with said first key stored in said memory of said first supply item,

wherein if said verification key received from said mechanism corresponds to said first  
20 key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

31. A method for providing a virtual replenishing of a supply item with an imaging substance, said supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance, comprising:

5       communicating to a database a first serial number associated with said supply item, wherein said first serial number is compared with a plurality of serial numbers stored in said database;

10      receiving from said database one of a first data indicating non-correspondence between said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes a verification key; and

      comparing said verification key received from said database with a first key stored in a memory associated with said supply item,

15      wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said supply item, then allocating at least a portion of said surplus amount of said imaging substance contained in said supply item for use.

32. The method of claim 31, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

33. The method of claim 31, wherein the act of comparing said verification key received from said database with said first key stored in said memory associated with said supply item is performed by a module attached to said supply item.

34. The method of claim 31, wherein the act of comparing said verification key received from said database with said first key stored in said memory associated with said supply item is performed by a controller of an imaging device.

35. The method of claim 31, wherein the act of comparing said verification key received from said database with said first key stored in said memory associated with said supply item is performed by:

sending from a controller of an imaging device a first portion of said verification key to a  
5 module attached to said supply item;

    said module comparing said first portion of said verification key to a corresponding portion of said first key stored in said memory associated with said supply item, and upon verification of said first portion,

    said module supplying to said controller a remaining portion of said first key stored in  
10 said memory for comparison by said controller to a corresponding portion of said verification key.

36. The method of claim 31, wherein if said verification key received from said database does not correspond to said first key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to resubmit said first serial number.

37. The method of claim 36, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

38. The method of claim 31, wherein if said verification key received from said database does not correspond to said first key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to enter a corrected key.

39. The method of claim 38, wherein if there is no correspondence between said verification key and said first key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

40. The method of claim 31, wherein the act of comparing said verification key is repeated a predetermined number of times.

41. The method of claim 40, wherein if there is no correspondence between said verification key and said first key in said predetermined number of times, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

42. The method of claim 31, wherein said memory is attached to said supply item.

43. A method for providing a virtual replenishing of a supply item with an imaging substance, wherein said supply item contains an actual supply of the imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance, comprising:

- 5       communicating to a mechanism a serial number associated with said supply item;
- receiving a verification key based on said serial number;
- comparing said verification key received from said mechanism with a key stored in a memory associated with said supply item,
- wherein if said verification key received from said mechanism corresponds to said key
- 10       stored in said memory associated with said supply item, at least a portion of said surplus amount of said imaging substance contained in said supply item is allocated for use.

44. The method of claim 43, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

45. The method of claim 43, wherein the act of comparing said verification key received from said mechanism with said key stored in said memory associated with said supply item is performed by a module attached to said supply item, wherein the module also comprises the memory.

46. The method of claim 43, wherein the act of comparing said verification key received from said mechanism with said key stored in said memory associated with said supply item is performed by a controller of an imaging device.

47. The method of claim 43, wherein the act of comparing said verification key received from said mechanism with said key stored in said memory associated with said supply item is performed by:

5 sending from a controller of an imaging device a first portion of said verification key to a module attached to said supply item;

said module comparing said first portion of said verification key to a corresponding portion of said key stored in said memory associated with said supply item, and upon verification of said first portion,

10 said module supplying to said controller a remaining portion of said key stored in said memory for comparison by said controller to a corresponding portion of said verification key.

48. The method of claim 43, wherein if said verification key received from said mechanism does not correspond to said key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to resubmit said serial number.

49. The method of claim 48, wherein if there is no correspondence between said verification key and said key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

50. The method of claim 43, wherein if said verification key received from said mechanism does not correspond to said key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to enter a corrected key.

51. The method of claim 50, wherein if there is no correspondence between said verification key and said key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

52. The method of claim 43, wherein the act of comparing said verification key is repeated a predetermined number of times.

53. The method of claim 52, wherein if there is no correspondence between said verification key and said key in said predetermined number of times, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

54. The method of claim 43, wherein said memory is attached to said supply item.

55. The method of claim 43, wherein said key stored in said memory is generated based on said serial number by executing an algorithm.

56. The method of claim 55, wherein said algorithm is an HMAC algorithm.

57. The method of claim 43, wherein the act of generating said verification key based on said serial number is performed by said mechanism executing an algorithm.

58. The method of claim 57, wherein said algorithm is an HMAC algorithm.

59. A method for providing a virtual replenishing of a supply item with an actual supply of imaging substance, wherein said supply item includes a licensed amount of said imaging substance and a surplus amount of said imaging substance, and wherein a serial number associated with said supply item can be communicated to a mechanism for generating a verification key based on the serial number, comprising:

supplying said verification key for comparison with a key stored in a memory associated with said supply item,

wherein if said verification key supplied for comparison corresponds to said key, at least a portion of the surplus amount contained in said supply item is allocated for use.

60. The method of claim 59, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

61. The method of claim 59, wherein the act of comparing said verification key with said key stored in said memory associated with said supply item is performed by a module attached to said supply item, wherein the module also comprises the memory.

62. The method of claim 59, wherein the act of comparing said verification key with said key stored in said memory associated with said supply item is performed by a controller of an imaging device.

63. The method of claim 59, wherein the act of comparing said verification key with said key stored in said memory associated with said supply item is performed by:

sending from a controller of an imaging device a first portion of said verification key to a module attached to said supply item;

5        said module comparing said first portion of said verification key to a corresponding portion of said key stored in said memory associated with said supply item, and upon verification of said first portion,

      said module supplying to said controller a remaining portion of said key stored in said memory for comparison by said controller to a corresponding portion of said verification key.

64. The method of claim 59, wherein if said verification key does not correspond to said key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to resubmit said serial number.

65. The method of claim 64, wherein if there is no correspondence between said verification key and said key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

66. The method of claim 59, wherein if said verification key does not correspond to said key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to enter a corrected key.

67. The method of claim 66, wherein if there is no correspondence between said verification key and said key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

68. The method of claim 59, wherein the act of comparing said verification key is repeated a predetermined number of times.

69. The method of claim 68, wherein if there is no correspondence between said verification key and said key in said predetermined number of times, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

70. The method of claim 59, wherein said memory is attached to said supply item.

71. The method of claim 59, wherein said key stored in said memory is generated based on said serial number by executing an algorithm.

72. The method of claim 71, wherein said algorithm is an HMAC algorithm.

73. The method of claim 59, wherein the act of generating said verification key based on said serial number is performed by said mechanism executing an algorithm.

74. The method of claim 73, wherein said algorithm is an HMAC algorithm.

75. A method for providing a virtual replenishing of a supply item with an imaging substance, wherein said supply item contains an actual supply of the imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance, comprising:

- 5       receiving a serial number associated with said supply item; and  
generating a verification key based on said serial number,  
wherein said verification key is compared with a key stored in a memory associated with said supply item, and if said verification key corresponds to said key stored in said memory associated with said supply item, at least a portion of said surplus amount of said imaging  
10      substance contained in said supply item is allocated for use.

76. The method of claim 75, wherein said method is performed when said licensed amount of said imaging substance has fallen below a predetermined threshold.

77. The method of claim 75, wherein the act of comparing said verification key with said key stored in said memory associated with said supply item is performed by a module attached to said supply item, wherein the module also comprises the memory.

78. The method of claim 75, wherein the act of comparing said verification key with said key stored in said memory associated with said supply item is performed by a controller of an imaging device.

79. The method of claim 75, wherein the act of comparing said verification key with said key stored in said memory associated with said supply item is performed by:

      sending from a controller of an imaging device a first portion of said verification key to a module attached to said supply item;

- 5       said module comparing said first portion of said verification key to a corresponding portion of said key stored in said memory associated with said supply item, and upon verification of said first portion,

      said module supplying to said controller a remaining portion of said key stored in said memory for comparison by said controller to a corresponding portion of said verification key.

80. The method of claim 75, wherein if said verification key does not correspond to said key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to resubmit said serial number.

81. The method of claim 80, wherein if there is no correspondence between said verification key and said key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

82. The method of claim 75, wherein if said verification key does not correspond to said key stored in said memory associated with said supply item, then prompting at least one of a user and a monitoring mechanism to enter a corrected key.

83. The method of claim 82, wherein if there is no correspondence between said verification key and said key in a predetermined number of attempts, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

84. The method of claim 75, wherein the act of comparing said verification key is repeated a predetermined number of times.

85. The method of claim 84, wherein if there is no correspondence between said verification key and said key in said predetermined number of times, then displaying a message indicating that said virtual replenishing of said supply item with said imaging substance cannot be performed.

86. The method of claim 75, wherein said memory is attached to said supply.

87. The method of claim 75, wherein said key stored in said memory is generated based on said serial number by executing an algorithm.

88. The method of claim 87, wherein said algorithm is an HMAC algorithm.
89. The method of claim 75, wherein the act of generating said verification key based on said serial number is performed by a mechanism executing an algorithm.
90. The method of claim 89, wherein said algorithm is an HMAC algorithm.

## X. EVIDENCE APPENDIX

Included herein, and listed below, is a copy of each reference upon which the Examiner relied in rejecting one or more of the claims of the present application.

### Exhibit:

- A. U.S. Patent Application Publication No. 2002/0012541 (Takemoto).
- B. U.S. Patent No. 4,967,207 (Ruder).
- C. U.S. Patent No. 6,816,968 (Walmsley).

**XI. RELATED PROCEEDINGS APPENDIX**

**(No Entries)**